

# No evidence for simultaneous pollen and resource limitation in *Aciphylla squarrosa*: A long-lived, masting herb.

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For successful reproduction animal pollinated plants must provide resources for both pollinator attraction and offspring production, and theory suggests that resources and pollen delivery limit reproduction simultaneously. We conducted a series of experiments involving supplemental pollination, flower removal, fertilizer addition and foliage removal (Fig. 1) to investigate the interaction of resources and pollen on fruitset of *Aciphylla squarrosa* (Fig.2), a long-lived, dioecious, masting herb in Wellington, New Zealand. Reducing floral display decreased open-pollinated fruitset, suggesting that display size is a reflection of an optimal investment between attraction and fecundity. In combination with supplemental pollination, resource reduction and fertilisation addition did not alter fruitset, suggesting changes in resource availability did not limit reproduction in the current year. In addition, supplemental pollination of non-manipulated treatments did not increase fruitset, demonstrating that plants were not naturally pollen limited. While we found that simultaneous pollen and resource limitation did not occur within a season, this is possibly mitigated by life history patterns including mast flowering and a storage taproot. Multiple year studies are required to further examine simultaneous resource and pollen limitation (Brookes & Jesson, in press).

Brookes, R.H. & Jesson, L.K., **No evidence for simultaneous pollen and resource limitation in *Aciphylla squarrosa*: a long-lived, masting herb.** *Austral Ecology*, (In press).

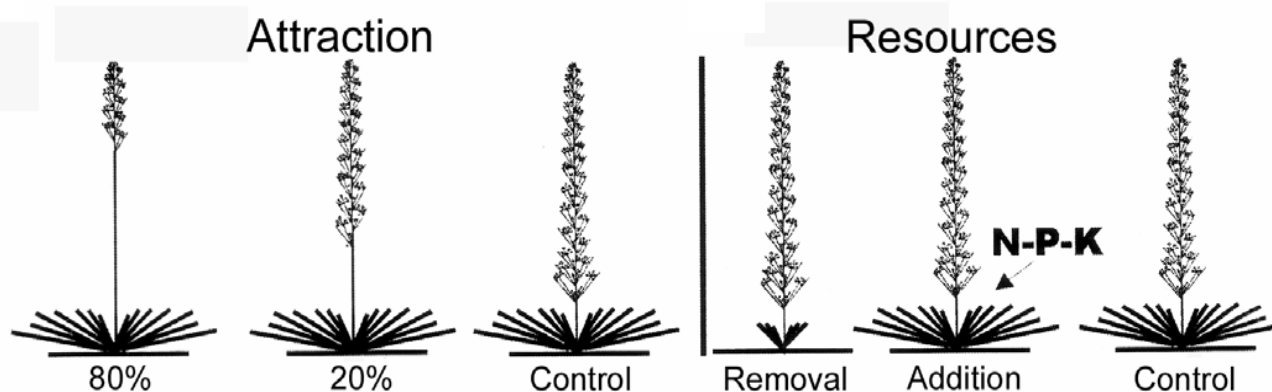


Fig. 1: Manipulations of display size and resources



Fig 2: *Aciphylla squarrosa*